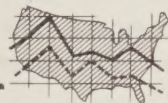


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United States Department of Agriculture  
BUREAU OF AGRICULTURAL ECONOMICS

WASHINGTON, D. C.

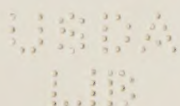


APRIL 1945

*Home Preservation  
of Fruits and Vegetables  
in 1944*

A CONTRIBUTION OF THE AMERICAN KITCHEN  
TO THE NATION'S FOOD SUPPLY

APR 10 1945





# *About this survey*

Why the Survey Was Made      THE MORE FOOD the home gardens of the country produce, and the more jars of foodstuffs canned in our kitchens, the more there will be not only for the people at home but also for our armed forces and our allies.

Home gardeners and people who preserve food have eased the food situation considerably during the war. It has become increasingly important for the Government to know just how much they are contributing. The survey on which this report is based was conducted at the request of several Government offices concerned with the food supply--in the Department of Agriculture, the Bureau of Human Nutrition and Home Economics of the Agricultural Research Administration, and the Office of Information; in the War Food Administration, the Extension Service and the Civilian Food Requirements Branch.

Who Was Interviewed      Between September 25 and October 14, 1944, Government interviewers visited 1,982 households in all parts of the country.\* These households were carefully selected to form a miniature of those of the nation. They included people of all levels of income and education, all types of occupation, and many nationality backgrounds; farm people and people in cities and towns of all sizes; households of large families, of small ones, households consisting of one person, and of groups other than families (as in rooming houses). In each household the person who had the main responsibility for meals was interviewed.

Facts were gathered both about gardens and about food preservation. Only the material on preservation is included in this summary, which has been prepared for the information of persons who may be influential in increasing and improving the home preservation of food.

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\*The sample population was drawn from the New York, Chicago, Boston, Los Angeles, Detroit, St. Louis, and Cleveland metropolitan areas, and from the following counties: Geneva, Alabama; Jefferson, Arkansas; Denver, Colorado; Fairfield, Connecticut; Clarke and Telfair, Georgia; Marion, Illinois; Posey, Indiana; Page and Worth, Iowa; Coffey and Douglas, Kansas; Meeker, Minnesota; Hinds, Mississippi; Adair, Missouri; Onondaga, New York; Hyde, North Carolina; Hamilton and Seneca, Ohio; Noble, Oklahoma; Multnomah, Oregon; Bucks and Lackawanna, Pennsylvania; Colleton and Lancaster, South Carolina; Hamilton, Tennessee; Lubbock, Texas; Box Elder, Utah; Augusta and Buchanan, Virginia; Grays Harbor, Washington; Milwaukee, Wisconsin.



# How many preserved fruits and vegetables in 1944?



SEVEN OUT OF EVERY TEN HOUSEHOLDS in the nation--or about 24,800,000 households--preserved fruits and vegetables in 1944. Some put up only a few jars of jam or jelly. Many preserved hundreds of quarts of a variety of food items, chiefly by canning, to some extent by dehydrating or drying, freezing, brining, and other methods.

In all, it is estimated that almost three and a half billion quarts of fruits and vegetables were thus preserved last year. Nor is this the complete record of the home's contribution to the food stores of the nation, for it does not include unestimated amounts of fruits and vegetables stored fresh in cellars, pits, and trenches or of meats and poultry cured and canned.

## WHO DID MOST OF THIS FOOD PRESERVATION?

In proportion to their numbers,

more farm housewives than nonfarm housewives,

more small-town housewives than city housewives,

more older housewives than younger ones,

more of those with home gardens than of those without gardens,

more of those with large households than of those with small,

preserved fruits and vegetables in 1944.

## Farm vs. Nonfarm

Although only about 20 percent of the nation's households live on farms, farm households are credited with 40 percent of the total quantity of fruits and vegetables preserved last year.



Of nonfarm households. . . .65%	) preserved fruits and vegetables
Of farm households . . . .94%	

Not only did a greater percentage of farm households preserve food; generally they preserved greater quantities.

Quantities	Nonfarm households*	Farm households
Less than 50 quarts	33%	5%
1-24	17%	3%
25-49	16	2
50 to 99 quarts	25%	16%
50-74	14	5
75-99	11	11
100 to 499 quarts	40%	74%
100-199	24	29
200-299	11	21
300-499	5	24
500 quarts or more	1%	5%

#### City vs. Town

A greater proportion of the households in smaller cities and towns preserved fruits and vegetables than of those in larger cities.

In cities and towns of--	Fruits and vegetables were preserved by--
2,500 to 9,999	85% of the households
10,000 to 24,999	75% of the households
25,000 to 49,999	65% of the households
50,000 and over	57% of the households

\*One percent in this group preserved unascertained amounts. The percentages in the table are based on the number of households in which some fruits and vegetables were preserved.



### Gardeners vs. Non-gardeners

About half the households of the nation--or some 18,400,000 households--had home gardens last year, and these were more likely to preserve fruits and vegetables than were those households that had no gardens.

Of those with gardens. . . .91% )	) preserved fruits and vegetables
Of those without gardens . .51% )	

In farm households, over 90 percent of the beans, peas, greens, and sauerkraut, almost 90 percent of the corn and tomatoes, half the preserved fruit, and three-quarters of the fruit for jams and jellies came from the family garden. In nonfarm households, well over half the tomatoes, beans, corn, peas, and sauerkraut and almost all the greens put up came from the family garden, as did a fourth of the preserved fruit and a third of the fruit for jams and jellies.

### Large vs. Small Households

Housewives in large households were more likely than those in small households to preserve fruits and vegetables.

Of those households in which--	Fruits and vegetables were preserved by--
only one or two persons regularly take their meals . . . . .	64%
three to five persons regularly take their meals . . . . .	78%
six or more persons regularly take their meals . . . . .	90%

### Older vs. Younger Housewives

Among the nonfarm housewives, those 30 years of age or over were more likely than those under 30 to preserve fruits and vegetables. Among farm housewives, on the other hand, the younger housewives were as likely to do so as the older housewives.



Of nonfarm housewives		
30 years of age or over . . .	71% )	
	)	preserved fruits
Of nonfarm housewives	)	and vegetables
under 30. . . . .	58% )	

The figures doubtless reflect the fact that, in the cities, younger women are more likely to be employed outside the home than are older women. They are also more likely to live in small apartments, with limited kitchen and storage space and without ready access to garden space.

#### Income and Educational Level of Nonfarm Households In Which Fruits and Vegetables Were Preserved

Among nonfarm people, family income and the occupation of the principal breadwinner had no bearing on whether or not food was preserved in a household. The survey shows that lower-, middle-, and upper-income households were all equally likely to preserve fruits and vegetables.

The same is true regarding the level of education of the nonfarm housewives. Whether a housewife had had a college education or had not completed grammar school seemed to make no difference in whether or not she decided to do some canning.

#### HOW MANY HAVE BEGUN PRESERVING FOOD SINCE THE WAR STARTED?

ONE OUT OF EVERY SEVEN HOUSEWIVES who preserved fruits and vegetables in 1944 first began canning some time within the previous four years. Six out of seven were canning or otherwise preserving food before that time. Most of the newcomers are in the nonfarm group.

Among nonfarm housewives  
who preserved food in 1944,  
17% had not done so before  
the war

3% preserved food for the  
first time last year

6% began the year before

8% have canned for the last  
three or four years

Among farm housewives  
who preserved food in 1944,  
7% had not done so before  
the war

2% preserved food for the  
first time last year

1% began the year before

4% have canned for the last  
three or four years



Since fruits and vegetables were preserved last year in 94 out of every 100 farm households, the practice would appear to be customary among farm women. When farm housewives who have recently begun to put up foods were asked their reasons for beginning, their answers were usually, "Because we like to have the stuff on hand," "To have vegetables in the winter time," "To use up what we grew in the garden," and so on, rather than reasons reflecting wartime conditions.

The nonfarm women frequently gave similar reasons for taking up food preservation--to save money, because they prefer the flavor of home-canned foods, and the like. Many of these recent beginners are also newcomers to housekeeping; when they were asked why they began putting up foods within the last four years they often answered, "Because that's when I got married."

But in the cities and towns, at least, war shortages have brought newcomers into the food-preservation "circle." One in every four nonfarm housewives for whom food preservation is a comparatively new activity said she took it up because she hadn't enough ration points to meet the family needs for canned fruits and vegetables, and others said they began when they couldn't buy what they needed. One in ten said she began because she wanted to help the national food situation.

#### WHAT KEEPS SOME PEOPLE FROM PRESERVING FOOD?

IN THREE OUT OF TEN households no fruits or vegetables were preserved last year. The most common reasons given were lack of time, illness and old age, and the belief that home preservation of food is expensive.

Among city housewives, lack of storage or work space was a fairly common reason. About one housewife in 15 of those who preserved no fruits or vegetables gave as the reason that she doesn't know how to do it. Only three percent of the nonfarm group said anything about the sugar shortage and only four percent mentioned lack of equipment as their reason for not preserving food. Farm housewives mentioned neither of these reasons.



# What fruits and vegetables were preserved?



FRUITS, TOMATOES, AND JAMS AND JELLIES were the items most commonly preserved last year. In farm households, relishes and pickles and beans of all types were popular also.

Of those households in which fruits and vegetables were preserved:

	<u>Nonfarm</u>	<u>Farm</u>
Fruits were preserved by	85%	95%
Tomatoes	72	91
Jams, jellies	71	80
Pickles, relishes	46	73
Beans	39	73
Corn	17	53
Peas	15	47
Sauerkraut	11	25
Greens (all types)	6	13
Carrots	6	10
Onions	4	7
Okra	2	7
Squash	2	5
Asparagus	2	1
Turnips	1	3
Broccoli	1	0
Cauliflower	1	0
Pumpkin	0	7
Parsnips	0	1

(Beets were preserved by about four percent, but are not included in the table because percentages for nonfarm and farm housewives separately are not available.)

Altogether, it is roughly estimated that the housewives of America last year preserved well over three billion quarts of fruits and vegetables, mostly by canning, to some extent by drying or dehydrating,



freezing, brining, and other methods. The table shows the estimated quantities of the various items thus preserved in the nation's homes in 1944.\* It does not include fruits and vegetables stored fresh, such as apples, potatoes, and root crops.

	<u>In Nonfarm Households</u>	<u>In Farm Households</u>	<u>TOTALS</u>
	(Quarts)	(Quarts)	(Quarts)
Fruits	895,000,000	533,000,000	1,428,000,000
Tomatoes, tomato juice	430,000,000	290,000,000	720,000,000
Jams, jellies	185,000,000	89,000,000	274,000,000
Beans (all types)	150,000,000	124,000,000	274,000,000
Pickles, relishes	156,000,000	94,000,000	250,000,000
Corn	48,000,000	88,000,000	136,000,000
Peas	41,000,000	64,000,000	105,000,000
Sauerkraut	36,000,000	29,000,000	65,000,000
Greens (all types)	14,000,000	13,000,000	27,000,000
Miscellaneous vegetables**	<u>69,000,000</u>	<u>61,000,000</u>	<u>130,000,000</u>
	2,024,000,000	1,385,000,000	3,409,000,000

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\*These estimates are based on the reports obtained from the 1,982 households described in the foreword. At the extreme, the actual quantities may be as much as 15 percent higher or lower than the estimates given in the table. However, these figures correspond closely to estimates arrived at in two comparable studies done by agencies outside the Bureau of Agricultural Economics.

\*\*This item includes a number of vegetables which were reported preserved by small numbers of housewives. Sweet potatoes are the only vegetable canned in appreciable amounts that is not included.



# What methods were used?



THE OPEN-KETTLE METHOD WAS WIDELY USED by home canners last year. Seven out of ten reported using this method for canning fruit, and many said they used it for vegetables, including tomatoes. Pressure cookers were used extensively by farm housewives, but only a small percentage of nonfarm housewives used them. Relatively little oven canning was reported.

## For vegetables (including tomatoes):

The open kettle was used by. . .	(45% of the nonfarm canners 42% of the farm canners)
Pressure cookers were used by. .	(17% of the nonfarm canners 44% of the farm canners)
Oven canning was done by . . . .	(5% of the nonfarm canners 1% of the farm canners)

## For fruits:

The open kettle was used by. . .	(65% of the nonfarm canners 72% of the farm canners)
Pressure cookers were used by. .	( 9% of the nonfarm canners 23% of the farm canners)
Oven canning was done by . . . .	(6% of the nonfarm canners 2% of the farm canners)

About ten percent of those who preserved fruits and vegetables dried or dehydrated some, and about six percent preserved fruits or vegetables by freezing. These methods were more common in farm than in nonfarm households.

Potato storage was much more popular among farm than among nonfarm households. At the time of the survey (late September to early October), six out of every ten farm households in the country, as compared with two out of ten nonfarm households, had stored white or sweet potatoes or both. These figures may be an underestimate for the year, since in some parts of the country potatoes had not yet been harvested at that time.



# *How many attended community canning centers?*

ABOUT TWO-THIRDS of the people who preserved food last year had heard of community canning centers, but housewives from only two percent of the nonfarm and eight percent of the farm households had attended them.

When those who had done some canning were asked whether they would attend centers this year if they were available, nearly 20 percent of both the farm and nonfarm groups indicated an interest in doing so. They gave these reasons:

A center would give them better information than they might get otherwise

Canning at a center would reduce the amount of work

The center would provide better equipment than they could have at home

About a fourth of the canners were uncertain about whether they would care to attend centers or not. Some said they might be interested if the centers were conveniently located.

The rest--the more than half who said definitely that they would not be interested--most commonly gave these reasons:

Working at home is more convenient

Going to a center takes more time

The amount of canning done in the household is too small to make attendance at a center worthwhile

Home canning has always been successful for them

Transportation would be difficult or unavailable

We may say, then, that while at least half and perhaps as many as three-quarters of the women who preserve food prefer to do their canning at home, a sizable number are interested in the facilities of community canning centers.



# How much home-preserved



## food spoils?

IN ALMOST ALL THE HOUSEHOLDS where canning was done in 1944, food was canned in 1943 also. The majority of the housewives reported that none of the fruits and vegetables they had put up in 1943 had spoiled. Most of the others reported spoilage of only small amounts.

<u>Amount of 1943 spoilage reported</u>	<u>Nonfarm housewives</u>	<u>Farm housewives</u>
NONE	73%	60%
Less than 5 quarts	10	15
5 to 10 quarts	7	11
11 to 15 quarts	2	5
16 to 20 quarts	1	1
21 to 25 quarts	1	2
26 or more quarts	0	2
Report not obtained	3	4
Preserved no food in 1943	3	0
	<u>100%</u>	<u>100%</u>

As the table shows, farm housewives reported more spoilage than did nonfarm housewives. This difference is partly due to the fact that farm housewives usually preserve larger quantities, as we saw on page 2. We know also, from the list on page 6, that a much larger percentage of the farm than of the nonfarm housewives put up the so-called non-acid vegetables--corn, string beans, peas, carrots, and greens--which require more heat for safe processing than do tomatoes and fruits.

When they were asked what difficulties, if any, they experienced with their 1944 food preservation, only a small percentage complained of poor jar lids and rubbers, lack of sugar, or any other wartime difficulties. Most of them mentioned no difficulties at all.

However, when asked if they would like advice or information about food preservation, about 14 out of every 100 said they would like information on methods of preserving vegetables, and almost an equal number asked for information on methods of preserving fruits.



# Food preservation plans



## for 1945

ABOUT THE SAME NUMBER of households are planning to preserve fruits and vegetables in 1945 as did so in 1944. In addition,

however, there is a sizable group who are undecided about whether or not they will preserve any food. If sufficient publicity about the urgent need for home food preservation in 1945 reaches these undecided people, it may be that the number preserving food will be appreciably increased this year. Here are the figures:

"Do you think you will preserve any fruits or vegetables in 1945?"

	<u>Nonfarm households</u>	<u>Farm households</u>	<u>All households</u>
YES	66%	93%	71%
NO	19	3	16
Undecided	<u>15</u> 100%	<u>4</u> 100%	<u>13</u> 100%

For the most part, if housewives carry out the plans they had at the time of the survey, they will put up about the same kinds of fruits and vegetables during the coming year as they put up last year.

So far as amounts are concerned, many said they plan to increase certain items--especially fruits, jams and jellies, tomatoes, beans, and pickles and relishes--the items already at the head of the list. Few said definitely that they plan to preserve less of any particular food than in 1944. But so many reported that they were undecided about their food preservation plans that predictions about the amounts of particular foods people may preserve in 1945 cannot now be made.



THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

REPORT OF THE PHYSICS DEPARTMENT  
FOR THE YEAR 1961-1962

CHICAGO, ILLINOIS

1962

THE PHYSICS DEPARTMENT AT THE UNIVERSITY OF CHICAGO HAS BEEN LUCKY TO HAVE A VERY CAPABLE AND ENTHUSIASTIC DEPARTMENT HEAD, DR. ROBERT R. WILSON, WHO HAS BEEN IN CHARGE SINCE 1955. DR. WILSON HAS BEEN A MAJOR FORCE IN THE DEVELOPMENT OF THE DEPARTMENT AND HAS BEEN RESPONSIBLE FOR THE ACQUISITION OF A LARGE AND DIVERSE FACULTY. THE DEPARTMENT HAS BEEN VERY SUCCESSFUL IN ATTRACTING AND RETAINING SOME OF THE BEST PHYSICISTS IN THE COUNTRY. THE DEPARTMENT HAS BEEN VERY SUCCESSFUL IN OBTAINING A LARGE AMOUNT OF RESEARCH FUNDS FROM THE NATIONAL SCIENCE FOUNDATION, THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, AND OTHER SOURCES. THE DEPARTMENT HAS BEEN VERY SUCCESSFUL IN PRODUCING A LARGE NUMBER OF RESEARCH PUBLICATIONS AND IN TRAINING A LARGE NUMBER OF STUDENTS. THE DEPARTMENT HAS BEEN VERY SUCCESSFUL IN ESTABLISHING A REPUTATION AS A LEADING CENTER FOR RESEARCH IN PHYSICS.

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